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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,371	07/03/2003	Kazunari Motohashi	075834.00409	4837
33448	7590	01/21/2005	EXAMINER	
ROBERT J. DEPKE LEWIS T. STEADMAN			BERNATZ, KEVIN M	
HOLLAND & KNIGHT LLC			ART UNIT	
131 SOUTH DEARBORN			PAPER NUMBER	
30TH FLOOR			1773	
CHICAGO, IL 60603			DATE MAILED: 01/21/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,371

Applicant(s)

MOTOHASHI, KAZUNARI

Examiner

Kevin M Bernatz

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Amendment

1. Amendments to the specification and claim 1, filed on November 19, 2004, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 1 is objected to because of the following informalities: a space should be placed between "50" and "nm" and the "a" on line 8 after "normal" should be removed (i.e. a line normal to [a] said nonmagnetic support,"). Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (U.S. Patent No. 5,554,440).

Regarding claim 1, Ishida et al. disclose a magnetic recording medium (*Title*) having a magnetic layer with a thickness of 50 nm or less (*col. 14, lines 42 – 67 and Figure 9*) formed over a surface of an nonmagnetic support (*col. 5, lines 64 – 65 and examples*) by vacuum thin film forming technique (*col. 5, lines 58 – 63*).

Regarding the limitation "wherein an angle Θ which is a growth direction of magnetic particles in a longitudinal cross-section of said magnetic layer with respect to

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a normal to said nonmagnetic support satisfies the following relation: $\Theta_i - \Theta_f \leq 25^\circ$

where Θ_i is an angle of initial growth for said magnetic layer, and Θ_f is an angle of final growth for said magnetic layer", it has been held that where claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established and the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC 102 or on *prima facie* obviousness under 35 USC 103, jointly or alternatively.

Therefore, the *prima facie* case can be rebutted by **evidence** showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

In the instant case, while Ishida et al. does not explicitly disclose the angle of the columnar magnetic grains, but instead discloses the incident angle of the oblique deposition, one of ordinary skill in the art would readily appreciate that the angle which the magnetic grains grow at is directly proportional to the incident angle of deposition. Given that Ishida et al. provides explicit teaching that the difference in the initial and final angles should be minimized (*col. 12, lines 1 – 10*), even providing embodiments

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wherein $\Theta_i = \Theta_f$ (col. 14, lines 61 – 65), the Examiner deems that Ishida et al. provides implicit teaching of embodiments meeting applicants' claimed limitations.

Therefore, in addition to the above disclosed limitations, the presently claimed property of $\Theta_i - \Theta_f \leq 25^\circ$ would have necessarily been present in at least the embodiments represented by the case where Ishida et al. teach using the same initial and final incident angle for deposition.

Regarding the limitation(s) "elongated", the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations. In the instant case, the structure required for the limitation "elongated" is that the substrate must be a material capable of being "elongated", i.e. a polymeric substrate. Since Ishida et al. disclose polymeric substrates (*examples*), Ishida et al. is deemed to meet the process limitation "elongated" since there is no evidence that a polymeric substrate that is subject to elongation would produce an unobvious difference versus a non-elongated substrate.

Response to Arguments

5. The rejection of claim 1 under 35 U.S.C § 102(b) – Ishida et al.

Applicant(s) argue(s) that applicants' invention "is directed to the criticality of the range of angles disposed magnetic particles take on wherein the magnetic layer is deposited to a thickness of 50 nm or less" and that "*Ishida* actually teaches away from applicants' NOW specified thickness for the magnetic layer thickness" (*pages 4 – 5 of response*). The examiner respectfully disagrees.

First, the Examiner notes that *Ishida et al.* disclose a range overlapping with applicants' claimed range, which is a *prima facie* case of anticipation (e.g. "50 nm" is in both the range "50 – 150 nm" and "50 nm or less"). Second, the Examiner notes that *Ishida et al.* provides clear showing of using lower thickness magnetic layers (*Figure 9*) and the range of 50 – 150 nm is merely the preferred range. *Ishida et al.* never excludes ranges under 50 nm as being operable.

Regarding applicants' argument of unexpected results, the Examiner notes that applicants' arguments are moot, since unexpected results cannot be used to overcome a rejection under 35 U.S.C. 102. However, the Examiner has considered the arguments and notes the following. First, applicants' claims are not commensurate in scope with their showing, which is only providing evidence in the improvement of electromagnetic conversion characteristics for a magnetic layer of 30 – 50 nm in thickness. Second, *Ishida et al.* appears to recognize the improvement in the magnetic properties when the difference in the initial and final angles are controlled to be similar, hence rendering the improved results *expected*, not *unexpected* as required for a showing of criticality (e.g.

see *Figures 15 – 22*). Finally, regarding applicants argument that Ishida et al. incident angles are not the actual angle of the magnetic particle deposition, the Examiner notes that applicants have provided no evidence that the disclosed incident angles wouldn't result in corresponding angles of the magnetic particles. Given that the angle of the columnar magnetic particles is known to be directly correlated to the incident angle, the Examiner deems that one of ordinary skill in the art would clearly appreciate that a teaching to control the initial and final incident angles to be the same is equivalent to teaching that the initial and final angles of the magnetic particles should be the same.

6. The prior rejection of claim 1 under 35 U.S.C § 103(a) – Ishida et al. in view of Kobayashi et al.

The above noted rejection has been withdrawn in view of applicant(s) arguments, which have been found persuasive. Specifically, applicant(s) argue that Kobayashi et al. is directed to an “average” growth angle and fails to teach controlling the initial and final growth angle such that it meets the claimed limitation, which the Examiner acknowledges.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

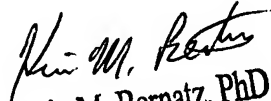
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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kevin M. Bernatz, PhD
Primary Examiner

KMB
January 18, 2005